

**Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services**

**STATEMENT OF BASIS**

**Low Sulfur Mogas Complex  
ExxonMobil Refining and Supply Company  
Baton Rouge, East Baton Rouge Parish, Louisiana  
Agency Interest Number: 2638  
Activity Number: PER20070022  
Draft Permit 2176-V4**

**I. APPLICANT:**

**Company:**

ExxonMobil Refining and Supply Company  
P.O. Box 551  
Baton Rouge, Louisiana 70821

**Facility:**

Low Sulfur Mogas Complex  
4045 Scenic Highway, Baton Rouge, East Baton Rouge Parish, Louisiana  
Approximate UTM coordinates are 675.736 kilometers East and 3374.700 kilometers North, Zone 15

**II. FACILITY AND CURRENT PERMIT STATUS:**

ExxonMobil Refining and Supply Company (ExxonMobil) owns and operates a petroleum refinery in Baton Rouge, Louisiana (BRRF). The Low Sulfur Mogas Complex is an existing facility in the refinery. Previously the facility operated under Permit 2176-V0 dated May 6, 1998. Previously the facility operated under Permit 2176-V1 dated February 18, 2004. Previously the facility operates under Permit 2176-V2 dated October 6, 2005. Currently the facility operates under Permit 2176-V3 dated April 11, 2006.

Several Part 70 permits addressing portions of the facility have already been issued. These include:

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Permit #	Units or Sources	Date Issued
2385-V5	Catalytic Cracking Complex	01/08/2009
2589-V4	Light Ends	09/04/2008
2234-V4	Coker Complex	12/09/2008
2447-V2	Hydroprocessing	09/23/2008
2296-V3	Light Oils	07/30/2008
2261-V2	Reformer	08/18/2008
2341-V1	Specialties Complex	08/29/2007
2047-V1	Docks	04/11/2006
2363-V2	Water Clarification Unit (WCLA)	11/05/2008
2795-V3	Refinery Tank Farm	01/11/2007
2696-V0	Complex Labs	08/31/2005
2300-V0	Sulfur Plant	03/20/2006
3060-V0	Hydrofining Unit	01/18/2008
0840-00127-V3	Marketing Terminal	01/11/2007

### III. PROPOSED PERMIT / PROJECT INFORMATION:

#### Proposed Permit

ExxonMobil submitted an application and Emission Inventory Questionnaire (EIQ) received December 12, 2007 requesting a Part 70 permit renewal.

A notice requesting public comment on the permit was published in *The Advocate*, Baton Rouge. A copy of the notice was mailed to concerned citizens listed in the Office of Environmental Services Public Notice Mailing List. The application and proposed permit were submitted to the East Baton Rouge Parish Library. The proposed permit was also submitted to US EPA Region 6. All comments will be considered prior to the final permit decision.

#### Process description

The Low Sulfur Mogas Complex has hydrotreating and caustic treating capacity to lower the sulfur content of mogas (motor gasoline). The Mogas primarily consists of naphthas with different boiling points. After production by upstream units, fractionators separate the blendstocks, which are then treated to reduce sulfur content. Treated streams are virgin naphtha, light-light cat naphtha (LCN), intermediate cat naphtha (ICN), and heavy cat naphtha (HCN). The unit includes an LCN splitter, several hydrofiners for naphtha streams, a Selective Hydrogenation Unit, and a Caustic Treating and Regeneration Units. A flare is included to handle emergency relief.

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This permit renewal/modification revises the emission limits from the facility's emission point sources based on updated emission factors and/or current facility conditions.

**Permitted Air Emissions**

Estimated emissions from the facility in tons per year are as follows:

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
PM <sub>10</sub>	21.66	21.66	–
SO <sub>2</sub>	67.02	67.94	+0.92
NO <sub>x</sub>	233.33	233.33	–
CO	187.48	202.12	+14.64*
VOC	114.56	115.47	-0.54

\*The increase in CO emissions is a reconciliation due to an update in the heating value of the fuel. This update puts all emissions from combustion sources on a consistent basis.

**Prevention of Significant Deterioration Applicability**

The permit does not authorize any construction. Therefore, PSD and NNSR do not apply.

**MACT requirements**

The facility meets MACT requirement by complying with the Louisiana Refinery MACT Determination through the Louisiana Fugitive Emission Consolidation program for the project fugitives. The permit requires compliance with the appropriate MACT requirements.

**Air Modeling Analysis**

Emissions associated with the proposed renewal/modification were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

**General Condition XVII Activities**

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

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**Insignificant Activities**

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

**IV. Regulatory Analysis**

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms conditions and standards are provided in the Facility Specific Requirements Section of the draft permit.

**Prevention of Significant Deterioration (PSD) – Part 52**

There are no projects authorized with this renewal/modification permit. Therefore, PSD does not apply.

**Non-Attainment New Source Review (NNSR) – Part 52**

There are no projects authorized with this renewal/modification permit. Therefore, NNSR does not apply.

**New Source Performance Standards (NSPS) – Part 60**

**Subpart J: Standards of Performance for Petroleum Refineries**

All Low Sulfur Mogas Complex furnaces are currently subject to NSPS Subpart J.

**Subpart GGG: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries**

Fugitive emissions are subject to NSPS Subpart GGG. The control requirements of Subpart GGG are met for all fugitive sources in the Low Sulfur Mogas Complex via compliance with the Louisiana Refinery MACT Determination.

**Subpart QQQ: Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems**

The cooling tower blowdown stream is subject to NSPS Subpart QQQ. The blowdown stream is routed to oil/water separator tanks subject to the requirements of NSPS Subpart Kb. These tanks are permitted within the Utilities Unit (formerly Water Clarification Unit) as WCLA/TK0021 and WCLA/TK0022.

**National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories – Part 63**

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**Subpart CC: Petroleum Refineries (Refinery MACT I)**

Fugitive emissions are subject to NESHAP Subpart CC. The refinery complies via the Louisiana Refinery MACT Determination. All secondary wastewater streams at the Low Sulfur Mogas Complex are Group 2 and are not regulated by Subpart CC. Group 1 miscellaneous process vent streams are subject to the control of this subpart.

**Subpart GGGGG: Site Remediation MACT**

BRRF is an affected facility for the Site Remediation MACT. Currently, BRRF does not have affected sources subject to the process vent, equipment leak, closed vent system/control device, or continuous monitoring system provisions of the MACT. Remediation Material Management Units (RMMUs) are used to manage remediation material generated from site remediation associated with unplanned releases. BRRF uses a variety of containers as RMMUs. Existing tanks and/or separators which are potentially subject to the MACT are exempt because these tanks contain remediation material with an average total VOHAP < 500 ppmw.

Containers are currently the only emission source (RMMUs) subject to the emission control requirements of the Subpart GGGGG. The HAP emissions associated with these RMMUs will be controlled according to the standards in the MACT or will meet one of the provided exemptions.

**Compliance Assurance Monitoring (CAM) – Part 64**

Miscellaneous process vent streams subject to the provisions of Part 64 are specifically exempt as these streams are subject to the provisions of 40 CFR 63 Subpart CC. Other emission units at the Low Sulfur Mogas Complex are not equipped with add-on control devices to achieve compliance with an emission limitation or standard. Thus no CAM plans are required.

**State Operating Permit Program (Title V) – Part 70**

This permit is a renewal/modification permit and the application, submitted under the Louisiana Title V permitting program, contains all the elements as required under the Louisiana Title V regulations.

**Control of Emissions of Nitrogen Oxides – Chapter 22**

Furnaces that are not subject to a more stringent emission limit are included in the Facility-Wide Averaging Plan and will not be modified to comply with the provisions of this chapter. Compliance with LAC 33:III.Chapter 22 for furnaces not subject to a more stringent emission limit is achieved via this Facility-Wide Averaging Plan.

**Comprehensive Toxic Air Pollutant Emission Control Program – Chapter 51**

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The toxic air pollutant emissions from fugitives, cooling towers, miscellaneous process vent streams, and the secondary wastewater system must be controlled to a degree that constitutes MACT. The refinery complies with the Louisiana Refinery MACT Determination for fugitive emissions. Biweekly sampling for hydrocarbons is conducted at cooling towers. Miscellaneous process vent streams are introduced into the flame zone of process heaters. The secondary wastewater system complies with applicable provisions of NESHAP Subpart FF.

**V. Permit Shields**

A permit shield was not requested.

**VI. Periodic Monitoring**

No periodic monitoring is required.

**VII. Applicability and Exemptions of Selected Subject Items**

See Permit.

**VIII. Streamlined Requirements**

Unit	Program Being Streamlined	Stream Applicability	Overall Most Stringent Program
LSM/FUG	LA Refinery MACT LAC 33:III.2122 40 CFR 63 Subpart CC - modified HON option 40 CFR 61 Subparts J and V 40 CFR 60 Subpart GGG	5% VOTAP 10% VOC 5% VOHAP 10% Benzene/VHAP/VTAP 10% VOC	LA Refinery MACT in the manner* agreed to be ExxonMobil in its approved Air Toxic Compliance Plan approved April 18, 1996, per Source Notice and Agreement dated October 14, 1996

**IX. Glossary**

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other

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costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

**Carbon Monoxide (CO)** – A colorless, odorless gas which is an oxide of carbon.

**Grandfathered Status**- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

**Hydrogen Disulfide (H<sub>2</sub>S)** - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

**Maximum Achievable Control Technology (MACT)** - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

**New Source Review (NSR)** - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

**Nitrogen Oxides (NO<sub>x</sub>)** - Compounds whose molecules consists of nitrogen and oxygen.

**Nonattainment New Source Review (NNSR)** - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

**Organic Compound** - Any compound of carbon and another element. Examples: Methane (CH<sub>4</sub>), Ethane (C<sub>2</sub>H<sub>6</sub>), Carbon Disulfide (CS<sub>2</sub>)

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Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit:  $\geq 10$  tons per year of any toxic air pollutant;  $\geq 25$  tons of total toxic air pollutants; and  $\geq 100$  tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM<sub>10</sub>- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO<sub>2</sub>) – An oxide of sulfur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.